Please read this document carefully before using this product. The guarantee will be invalidated if the device is damaged by not following instructions detailed in the manual. The company shall not be responsible for any damage or losses however caused, which may be experienced as a result of the installation or use of this product.

ENDA EDT1412 TEMPERATURE CONTROLLER

Thank you for choosing ENDA EDT1412 temperature controller.

* 35 x 77mm sized.
* On-Off control.
* Two contact outputs for cooling and defrost control.
* NTC probe input for cold room temperature.
* Offset value can be entered for NTC probe.
* Compressor protection parameters can be entered.
* In the case of probe failure, output state can be selected on, off or periodical running.
* Upper and lower limits of the setpoint can be adjusted.
* Defrosting duration and interval can be adjusted.
* 16 different warning tones.
* Temperature unit can be selected °C or °F.
* Upper and lower limits of the alarm value can be adjusted depending on the setpoint value.
* CE marked according to European Norms.

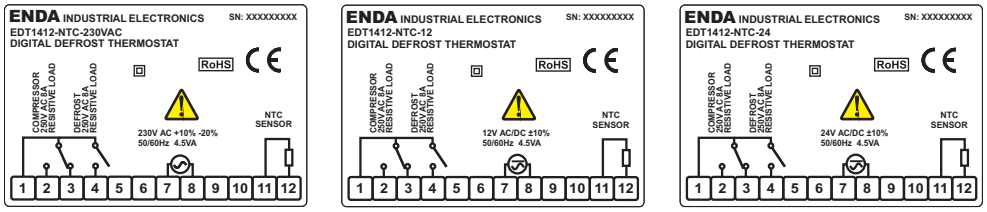
CE RoHS Compliant

Order Code : EDT1412-NTC-□□□□□□
1

Supply Voltage
230VAC...230V AC
24.....24V AC/DC
12.....12V AC/DC

Connection Diagram

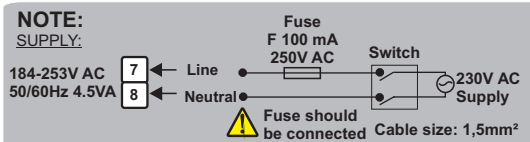
ENDA EDT1412 is intended for installation in control panels. Make sure that the device is used only for intended purpose. The electrical connections must be carried out by a qualified staff and must be according to the relevant locally applicable regulations. During an installation, all of the cables that are connected to the device must be free of electrical power. The device must be protected against inadmissible humidity, vibrations, severe soiling and make sure that the operation temperature is not exceeded. The cables should not be close to the power cables or components.



Holding screw 0.4-0.5Nm.

Equipment is protected throughout by DOUBLE INSULATION

NOTE:
SUPPLY:



Note:
1) Mains supply cords shall meet the requirements of IEC 60227 or IEC 60245.
2) In accordance with the safety regulations, the power supply switch shall bring the identification of the relevant instrument and it should be easily accessible by the operator.

Technical Specifications

ENVIRONMENTAL CONDITIONS	
Ambient/storage temperature	0 ... +50°C/-25 ... 70°C (with no icing)
Max. relative humidity	80%, up to 31°C decreasing linearly 50% at 40°C
Rated pollution degree	According to EN 60529 Front panel : IP65 Rear panel : IP20
Height	Max. 2000m

Do not use the device in locations subject to corrosive and flammable gasses.

ELECTRICAL CHARACTERISTICS	
Supply voltage	230V AC +10% -20%, 50/60Hz or 24V AC/DC ±10%, 50/60Hz or 12V AC/DC ±10%, 50/60Hz
Power consumption	Max. 4.5VA
Wiring	2.5mm² screw-terminal connections.
Scale	-50.0 ... +110.0°C (-58.0 ... +230.0°F)
Sensitivity/Accuracy	0.1°C / ±1°C
Time Accuracy	(±1%-15sec) for hour unit, (±1%-1sec) for minute unit
Indicator	4 digits, 12.5mm, 7 segment yellow LED
EMC	EN 61326-1: 1997, A1: 1998, A2: 2001 (Performance criterion B is satisfied for EMC tests. The device is designed to operate in controlled electromagnetic environment)
Safety requirements	EN 61010-1: 2001 (Pollution degree 2, overvoltage category II)

OUTPUT	
Compressor	For EDT1412-NTC-XX ; Relay: 250V AC, 8A (for resistive load), NO+NC; 1/2 HP 240V AC Cos = 0.4 (for inductive load)
Defrost	For EDT1412-NTC-XX ; Relay: 250V AC, 8A (for resistive load), NO; 1/2 HP 240V AC Cos = 0.4 (for inductive load)
Life expectancy for relay	For EDT1412-NTC-XX ; Mechanical 30.000.000; Electrical 100.000 operation.

CONTROL	
Control type	Single-setpoint and alarm control
Control algorithm	On-Off control
Hysteresis	Adjustable between 0.1 ... 20.0°C.

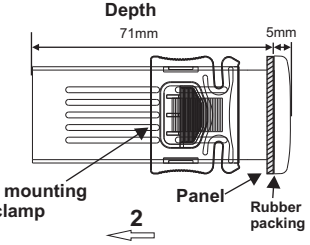
HOUSING	
Housing type	Suitable for flush-panel mounting.
Dimensions	W77xH35xD71mm
Weight	Approx. 215g (After packing)
Enclosure material	Self extinguishing plastics

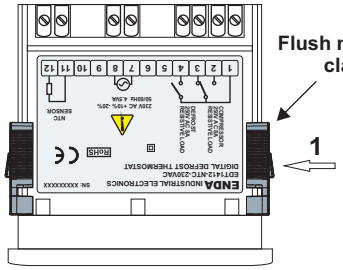
While cleaning the device, solvents (thinner, benzine, acid etc.) or corrosive materials must not be used.

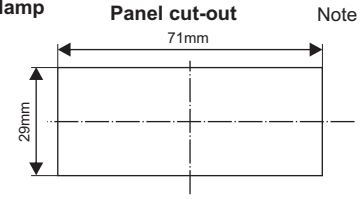
Dimensions

For removing mounting clamps:

Push the flush-mounting clamp in direction **1** as shown in the figure below. Then, pull out the clamp in direction **2.**

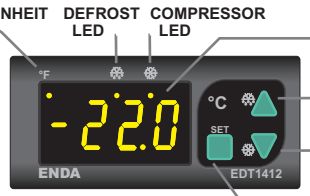






Note :1) Panel thickness should be maximum 7 mm.
2) If there is no 60mm free space at the back side of the device, it would be difficult to remove it from the Panel.

url : www.enda.com.tr



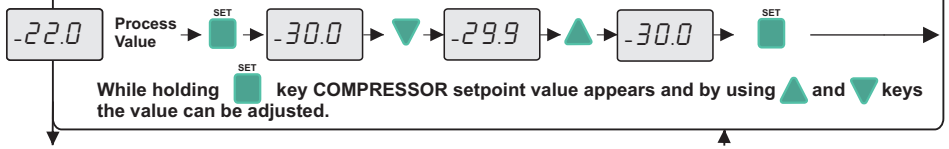
Displayed process value in the run mode, parameter name or value in programming mode.

When held down for 3 second in the run mode, manual defrost starts. After the specified time with d.dur parameter manual defrost finishes. When held down for 3 second manual defrost finishes before the specified time ends. Used for selecting menu and increasing setpoint value of the parameters in the programming mode and for increasing the setpoint value in the run mode. When held down for a few seconds, the change rate accelerates.

When held down for 3 second in the run mode continuous mode(*) starts. After the specified time with C.Con parameter this mode finishes. When held down for 3 second continuous mode finishes before the specified time ends. Used for selecting parameters and decreasing the setpoint value in the programming mode and for decreasing the setpoint value in the run mode. When held down for a few seconds, the change rate accelerates.

Used for adjusting the value of the setpoint in the run mode and for adjusting the selected parameter in the programming mode. While holding SET key, setpoint value of the selected parameter appears and by using ▲ and ▼ keys the value can be adjusted.

Run Mode



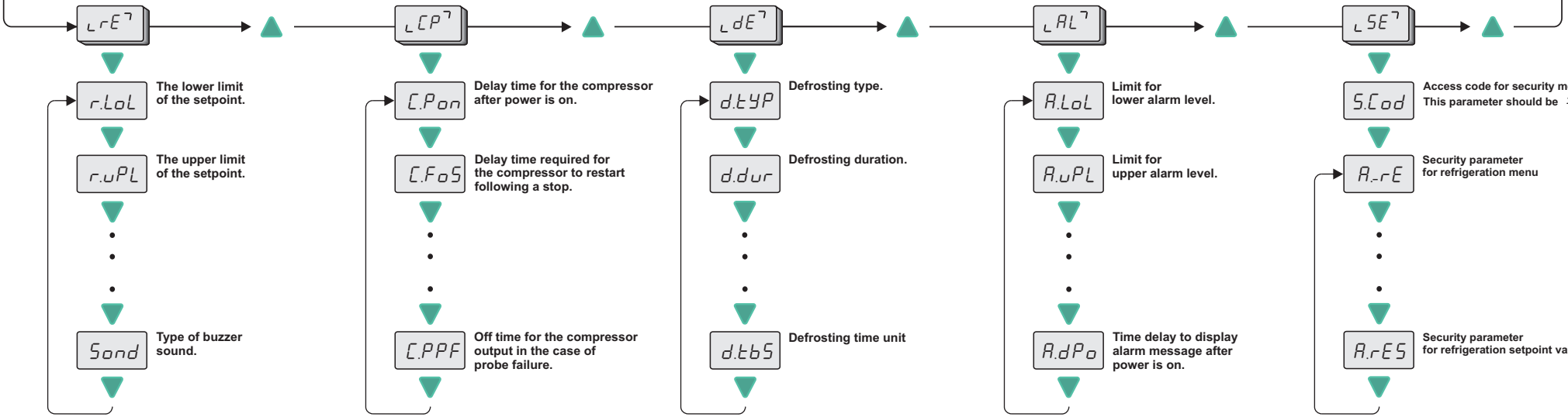
Error Messages

PSC	Means, thermostat probe is short circuit.
----	Temperature value is higher than the scale.
PFA	Means, thermostat probe is broken.
____	Temperature value is lower than the scale.

If both ▲ ▼ keys are pressed and held for 3 seconds, programming mode is entered.

If both ▲ ▼ keys are pressed, run mode is entered.

Programming Mode



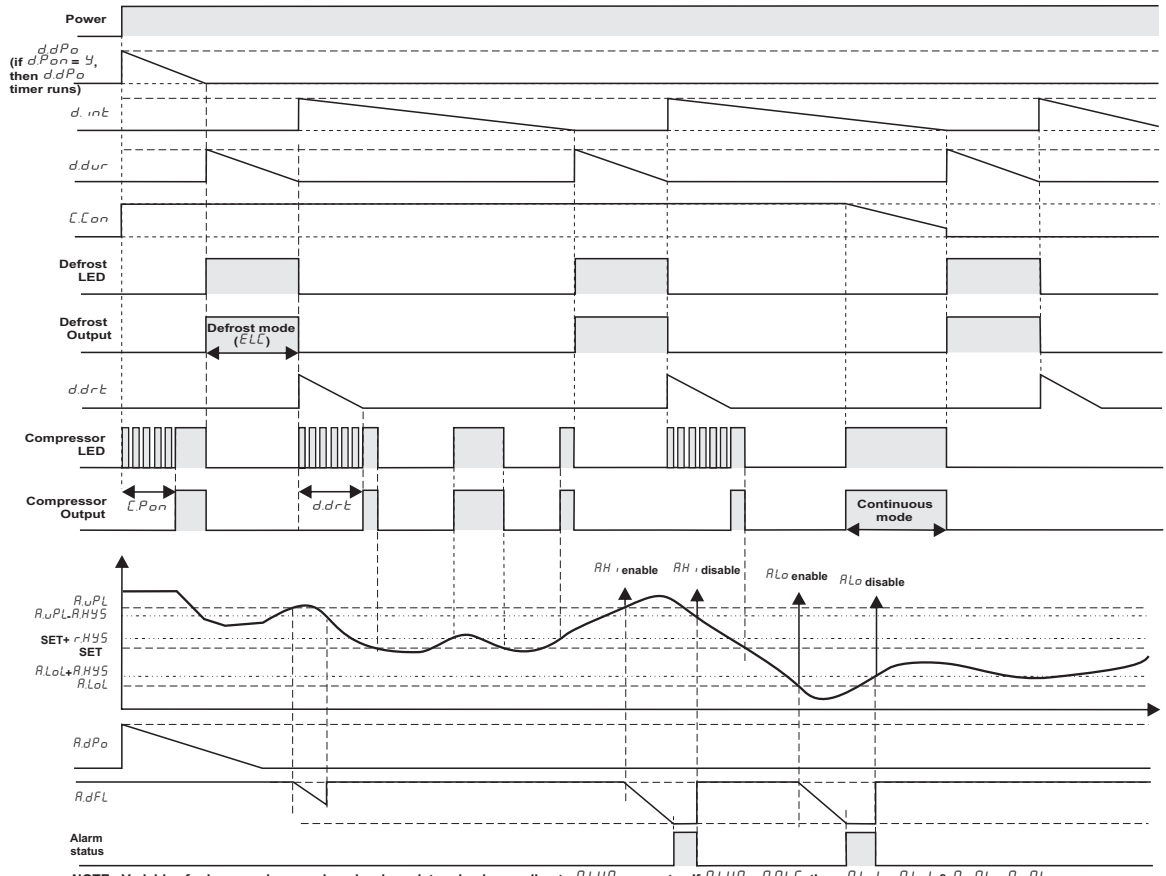
NOTE:

1. If process value flashes and warning tone sounds, means, measured value exceeds the adjusted alarm limit.

2. To stop warning tone, press any key.

(*) Continuous Mode: Compressor output, independent on the measurement temperature, is made “on” manually. After the specified time with C.Con parameter this mode finishes. Continuous mode can be finished manually before specified time ends and compressor output becomes dependent on the measurement temperature.

EDT1412 OUTPUT AND PARAMETER TABLE



NOTE : Variables for lower and upper alarm level are determined according to A.tYP parameter. If A.tYP = A.Ab5 ,then A.LoL = A.LoL & A.uPL = A.uPL.
If A.tYP = A.rEF , then A.LoL = SET-A.LoL & A.uPL = SET+A.uPL.

	Menu of Refrigeration control parameters	MIN	MAX	UNIT	DEF.SET
rE					
r.LoL	The lower limit of the setpoint.	-50.0	r.uPL	°C	-50
r.uPL	The upper limit of the setpoint.	r.LoL	110.0	°C	110
r.oFF	The offset value for the refrigeration.	-20.0	20.0	°C	0
r.HYS	Switch hysteresis for compressor.	0.1	20.0	°C	2
Unit	Temperature unit	°C	°F		°C
drES	Display place (no= no decimal point 22°C, YES= with decimal point 22.3°C .)	no	YES		no
Sond	Type of buzzer sound (16 different warning tones can be selectable. If Sond=0, then warning tone is disable.)	0	16		0
CP	**Menu of Compressor protection parameters**				
C.Pon	Delay time for the compressor after power is on.	0	255	min.	1
C.FoS	Delay time required for the compressor to restart following a stop.	0	255	min.	0
C.Con	Continuous-on mode duration for the compressor.	0.0	24.0	h.	0.1
C.PPn	On time for the compressor output in the case of probe failure.	0	255	min.	0
C.PPF	Off time for the compressor output in the case of probe failure.	0	255	min.	1
dE	**Menu of Defrost control parameters**				
d.tYP	Defrosing type (ELC= Electrical defrosting, GAS= hot gas defrosting)	ELC	GAS		ELC
d.dur	Defrosting duration.(If d.dur=0, then defrost is disable.)	0	255	min./sec.	1
d. int	Interval between defrost cycles.	1	120	h./min.	1
d.dSP	Display configuration during defrost (rEAL= Real temperature is displayed during defrost. LoC= The temperature which is measured before defrost is displayed during defrost.)	rEAL	LoC		LoC
d.drE	Delay time for display real temperature after defrost is over.	0	255	min./sec.	1
d.Pon	Defrosting after power is on.(YES=Defrosting begins when power is on, no=Defrosting doesn't begin when power is on.)	no	YES		no
d.dPo	Delay time for defrosting after power is on.	0	30	min.	1
d.drt	Drop (drainage) duration.	0	15	min./sec.	2
d.dCP	Delay time for the compressor at hot gas defrosting (Delay time is adjusted by using compressor protection parameters.)	no	YES		no
d.tbS	Defrosting time unit.(Hour = hour, min. SEC = min. , sec.)	Hour	SEC		Hour
AL	**Menu of Alarm control parameters**				
A.LoL	Limit for lower alarm level. When A.tYP is changed, A.LoL should be readjusted.	-50.0	A.uPL	°C	-50
A.uPL	Limit for upper alarm level. When A.tYP is changed, A.uPL should be readjusted.	A.LoL	110.0	°C	110
A.dFL	Delay time to display alarm message after alarm is on.	0	255	min.	0
A.HYS	Switch hysteresis for alarm.	0.0	15.0	°C	2
A.tYP	Alarm configuration (A.Ab5 = Absolute alarm. Alarm values are A.LoL and A.uPL. A.rEF = Relative alarm. Alarm values are SET-A.LoL and SET+A.uPL.)	A.Ab5	A.rEF		A.Ab5
A.dPo	Delay time to display alarm message after power is on.	0	24.0	h.	0.1
SE	**Menu of Parameter security**				
A_rE	Security parameter for refrigeration menu	nonE = Menu is invisible.			
A_CP	Security parameter for menu of compressor control	P.YES = Parameters of menu are changeable.			
A_dE	Security parameter for menu of defrost control	P.no = Parameters of menu are only visible.			
A_AL	Security parameter for menu of alarm control				
A.rE.S.	Security parameter for refrigeration setpoint value (P.YES= Setpoint value is invisible., P.no= Setpoint value is only visible.)				